

REMARKS

Responses to Section 112 Rejections

The Examiner rejected claims 1-4 and 6-9 under 35 U.S.C. § 112, para. 2, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter that Applicant regards as the invention. Applicant respectfully traverses.

Regarding claim 1 and claims depending therefrom, the Examiner stated that the claim recitation "parallel kinematic machine having a machine-connected positioning head and at least three machine setting devices . . . fails to positively claim any structural limitations which clearly define what structurally constitutes such positioning head and machine setting devices. Accordingly, one is unable to properly determine the metes and bounds of such claim." Office Action, Feb. 10, at 2.

In response, Applicant notes that the specification describes the machine setting devices by stating that "a frame 3 . . . supports three setting devices 5, each in the form of a piston 7 which is displaced in a cylinder 9." Specification at 4. The specification then states that "[o]ne end of the piston 7 that is displaceable axially in the cylinder 9 of the setting device 5 is connected to a positioning head 16 via an arm joint 17, which is shown encircled in [Fig. 1]." *Id.* Applicant's specification then describes the relationship between the machine setting devices and the machine-connected positioning head:

The setting devices 5 are disposed along the side edges of an imaginary triangular pyramid and the positioning head 16 can be brought precisely to a desired position in space, by displacing the pistons 7 in respective cylinders 9. In this respect, the arm 18 can be displaced axially in relation to the frame 3 and the universal joint 19.

Id. at 5.

Although Applicant believes that the previously presented recitation is clear, Applicant has clarified claim 1. First, Applicant has amended the term "joints" in claim 1

to clarify that the joints referred to are the "arm joints 17" and not the "frame joints 13" as described in the specification. Second, Applicant has amended claim 1 to positively recite structure for both the positioning head and machine setting devices:

a machine-connected positioning head connected to at least three arm joints, each arm joint (i) defining a main axis about which it can rotate and (ii) comprising a wobbler; and

at least three machine setting devices, each machine setting device comprising a piston, each piston comprising a distal end displaceable axially in a cylinder, and each distal end connected to one of each of the at least three arm joints

Applicant respectfully submits that such a recitation positively recites structure as required in the pending Office Action and respectfully requests withdrawal of this rejection.

Regarding claim 2, the Examiner stated that the claim recitation "wherein one end of each setting device is mounted for rotation about the wobbler . . . via joint mounting means on opposing sides of the wobbler to the machine-connected positioning head or to the frame or both . . . is unclear as to how each setting device can be mounted for rotation about the wobbler via joint mounting means on opposing sides of the wobbler and to both the machine-connected positioning head and the frame." Office Action, Feb. 10, at 2-3. Applicant has amended claim 2 and respectfully requests withdrawal of this rejection.

The Examiner also rejected claims 1, 2, 6, 7, and 9 under 35 U.S.C. § 112, para. 2, as allegedly being incomplete for omitting essential structural cooperative relationships of elements. Applicant respectfully traverses.

Regarding claim 1, the Examiner stated that the claim recitation "said joints each comprising a wobbler that . . . extends through a setting-device bearing means around the wobbler, and (3) includes an external bearing mounting surface or an external bearing surface on which its respective setting device is mounted . . . fails to clearly and

positively claim the structural engagement and the functional relationship between the setting-device bearing means and each of the positioning head, the machine setting devices and the external bearing mounting surface." Office Action, Feb. 10, at 3. Applicant's amendment of claim 1 removes the limitation "setting-device bearing means" and more positively recites the structural and functional relationships between components. Applicant therefore respectfully requests withdrawal of this rejection.

Regarding claim 2, the Examiner stated that the claim recitation "the joints are disposed between . . . the setting devices or a frame . . . fails to clearly and positively claim the structural engagement and the functional relationship between the frame and each of the positioning head and the machine setting devices." Office Action, Feb. 10, at 3. Applicant's amendment of claim 2 removes the limitation "the frame" and more positively recites the structural and functional relationships between components. Applicant therefore respectfully requests withdrawal of this rejection.

Regarding claims 6 and 7, the Examiner stated that the claim recitation "each joint is firmly connected to the supporting shaft . . . fail[s] to clearly and positively claim the structural engagement and the functional relationship between the supporting shaft and each of the setting-device bearing means, the external bearing mounting surface, the main axis and the wobbler axis." Office Action, Feb. 10, at 3-4. Applicant has amended claim 9 and respectfully requests withdrawal of this rejection.

Regarding claim 9, the Examiner stated that the claim recitation "an angle α is orientated in relation to a supporting shaft when the setting device is fitted to . . . a frame . . . fails to clearly and positively claim the structural engagement and the functional relationship between the supporting shaft and each of the setting-device bearing means, the external bearing mounting surface, the main axis and the wobbler axis . . . [and] fails

to clearly and positively claim the structural engagement and the functional relationship between the frame and each of the positioning head and the machine setting devices." Office Action, Feb. 10, at 4. Applicant has amended claim 9 and respectfully requests withdrawal of this rejection.

Responses to Section 102 and 103 Rejections

The Examiner has rejected claims 1-3 and 6-9 as being anticipated by Schaeffler Waelzlager (DE 199 04 702) (previously referred to as "Lunz" in prior office actions). The Examiner has also rejected claim 4 as obvious over the same reference. A copy of a translation obtained using the European Patent Office's electronic translation service is provided herewith.

In particular, the Examiner refers to joint 8 as a wobbler and suggests that joint 8 performs all of the claimed functions of the wobbler in the claimed parallel kinematic machine. Applicant respectfully disagrees.

First, as claimed in the pending claims, each wobbler connects a respective machine setting device to the machine-connected positioning head:

a machine-connected positioning head connected to at least three arm joints, each arm joint . . . comprising a wobbler; and

. . .

wherein each wobbler (i) includes an external bearing mounting surface on which the distal end of the respective machine-setting device is mounted.

By contrast, Schaeffler Waelzlager/Lunz teaches that the machine setting device 7 is connected by ball joint 9 to the positioning head 10, as opposed to a wobbler. Joint 8 is not used in this function. As noted, "the second joint [9] should be as a ball joint formed, whereby the joint ball with the bottom end of the telescopic strut and the associated []

with the tool holder [10] are connected.” Translation, p. 2, lines 28-30. This relationship is confirmed on p. 3 of the translation at lines 6-7 (“second joint 9 with a tool holder 10 connected...”). As such, Schaeffler Waelzlager/Lunz teaches the use of a ball joint, not a wobbler to connect the machine setting device to the positioning head.

Second, joints 8 and 9 cannot be interchanged because Schaeffler Waelzlager/Lunz teaches that joints 8 are to be slideable on legs 16. *See Fig. 4* and Translation, p. 2, lines 24-27 (“This universal joint-like storage of the telescopic struts is in the present case formed as sliding storage”).

Third, even assuming that Schaeffler Waelzlager/Lunz taught that joint 8 could be connected to the positioning head, the reference describes joint 8 as a cardanic universal joint, not a wobbler. *See* Translation, p. 2, lines 24-27. “This universal joint-like storage of the telescopic struts is in the present case formed as sliding storage” *See also* Translation, p. 3, lines 22-24 (Into the Fig. 2 and 5 in enlarged representation first joint shown 9 consists of a central portion 19....”

Fourth, Schaeffler Waelzlager/Lunz does not teach that the Joint 8 is mounted for rotation around a main axis as required by the claims. Although the Examiner has identified M as a main axis, there is no support in Schaeffler Waelzlager/Lunz for Joint 8 to be rotatable around that axis.

Finally, with respect to claim 4, the angle α describes the offset between the wobbler axis and the bearing axis. Neither Joint 8 (a universal joint) nor Joint 9 (a ball joint) have any offset whatsoever. As such, since the feature is entirely missing from the referenced joints, it is not simply a “design choice” to provide any offset, much less an offset within the claimed degree range.

As such, Applicant respectfully requests allowance of the claims as amended. If there are any questions or comments regarding this Amendment or application, the Examiner is encouraged to contact the undersigned attorney as indicated below.

Respectfully submitted,

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